

**1st Advanced Training Course on Illicit Trafficking and Consequence
Management with NUCLEONICA, ITU Karlsruhe, 22-24th April 2009**

NUCLEONICA Overview: A WEB PORTAL FOR THE NUCLEAR SCIENCES

J. MAGILL

*European Commission, Joint Research Centre,
Institute for Transuranium Elements,
Postfach 2340, 76125 Karlsruhe, Germany*

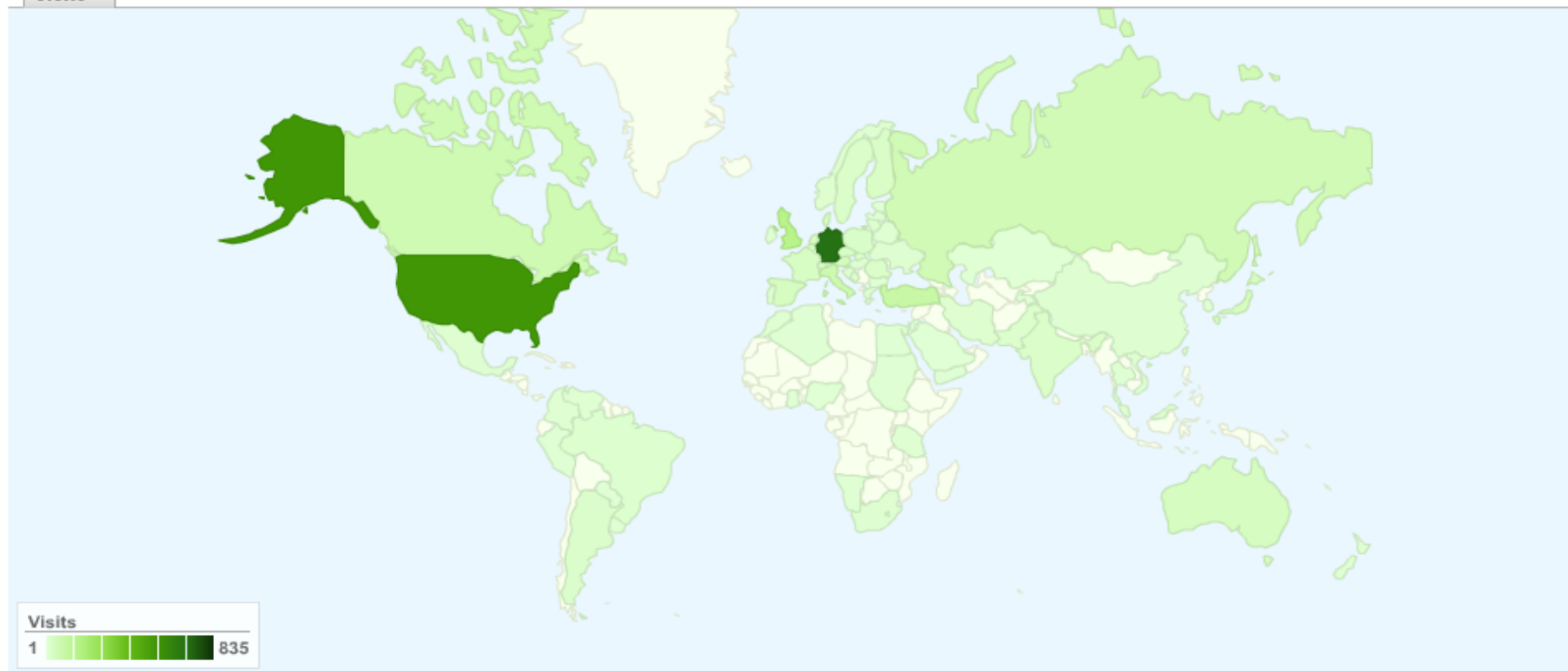


[Overview »](#)

Map Overlay

Mar 20, 2009 - Apr 19, 2009 ▾

Visits ▾



2,934 visits came from 78 countries/territories

Detail Level: [City](#) | [Country/Territory](#) | [Sub Continent Region](#) | [Continent](#) Dimension: [None](#) ▾


... web driven nuclear science

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Free Access

Training Courses

Educational Resources

Karlsruhe Nuclide Chart

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Ask an Expert

About Us

Contact

Sunday, November 18, 2007

username ***** Login

Nucleonica - web driven nuclear science



NUCLEONICA is a new nuclear science web portal from the European Commission's Joint Research Centre. The portal provides a customisable, integrated environment and collaboration platform for the nuclear sciences using the latest internet "Web 2.0" dynamic technology.

NUCLEONICA is aimed at professionals, academics and students working with radionuclides in fields as diverse as the life sciences (e.g. biology, medicine, agriculture), the earth sciences (geology, meteorology, environmental science) and the more traditional disciplines such as nuclear power, health physics and radiation protection, nuclear and radiochemistry, and astrophysics. It is also used as a knowledge management tool to preserve nuclear knowledge built up over many decades by creating modern web-based versions of so-called legacy computer codes.

NUCLEONICA provides "software as a service" on the web rather than through installed software, adding a greater level of stability and security and avoiding version compatibility and update problems. In addition, all NUCLEONICA's web applications are browser and operating system independent and can therefore be accessed by most web browsers.

NUCLEONICA offers the following main features:

» **Data Centre:** Online interactive nuclide charts. Reference data and searchable databases for internationally evaluated nuclear data. Library creation software

NUCLEONICA HOT TOPICS

» **Open Call for JRC Traineeships**

November 14, 2007

ITU's first open call for JRC-Traineeships has been published on our website. The deadline for applications is 6 December 2007 (midnight). In particular we have a position for assistance in the development of an electronic version of the Karlsruhe

NUCLEAR NEWS

French FM: France is not ruling out a military strike on Iran

NOV 18 Even though in Tehran the IAEA's report was described as a "political victory" that may prevent the intensifying of international sanctions, Kouchner says that "for now Iran persists in not meeting it [...]"

Iran: UNSC interference illegal

NOV 18 Mohammad Saeedi, a senior Iranian nuclear official has said insistence on pursuing Iran's nuclear program at the Security Council lacks legal grounds, PressTV reported. [...]

Iran says ready to act if attacked ...

NOV 18 LONDON, November 18 (IranMania) - Hardline Iranian President Mahmoud Ahmadinejad said Iran was ready to respond if attacked, but played down the prospect of war with the United States, Reuters reports [...]

'Safe' uranium that left a town contaminated

NOV 18 It is 50 years since Tony Ciarfello and his friends used the yard of a depleted uranium weapons factory as their playground in Colonie, a suburb of Albany in upstate New York state. "There wasn't no f [...]"

Chavez dealing pain to Spain

NOV 18 Chavez, who has nationalised large parts of the economy this year under his self-styled socialist "revolution", said last week he will revise diplomatic and business ties with the

 **JRC**
EUROPEAN COMMISSION


Institute for
Transuranium
Elements

Registration as a NUCLEONICA user

The entire registration process involves three steps: Registration, Change Login and Password, and Activate your Profile.
To register with Nucleonica, please proceed as follows:

Registration

- Go to the Nucleonica Homepage at www.nucleonica.net
- In the left hand window panel, click on Free Access and Register as a Nucleonica User.
- Read the end user's license agreement. Tick the checkbox to agree to the terms of the license agreement.
- Fill out your details on the form and enter the automatically generated code.
- Submit the form by pressing the "Register" button.

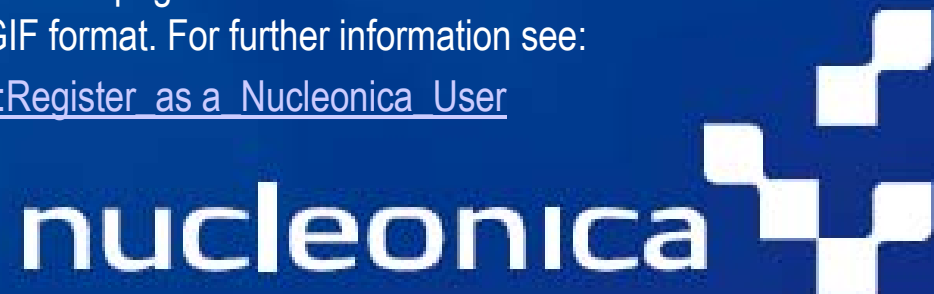
Change Login and Password

Shortly thereafter, you will receive an email with login and password. The login is the email address you specified in the registration process. The password is an automatically generated combination of letters and numbers. Both of these can be changed in Edit Preferences after logging in to Nucleonica for the first time.

Activate your Profile

Finally, to activate your profile, click on My Profile in the Start page. Tick the check boxes for the information fields to be visible to other users. Upload a photo in JPG or GIF format. For further information see:

http://www.nucleonica.net:81/wiki/index.php/Help:Register_as_a_Nucleonica_User



THE NUCLEONICA NUCLEAR SCIENCE PORTAL

1. What is NUCLEONICA?
2. NUCLEONICA's "Learning Centres"
3. Unique feature: Web-based Nuclear Science Applications
4. New Approach to Knowledge Management, Education and Training:
use of social networking tools
5. NUCLEONICA as a platform for scientific applications development



1. What is NUCLEONICA?

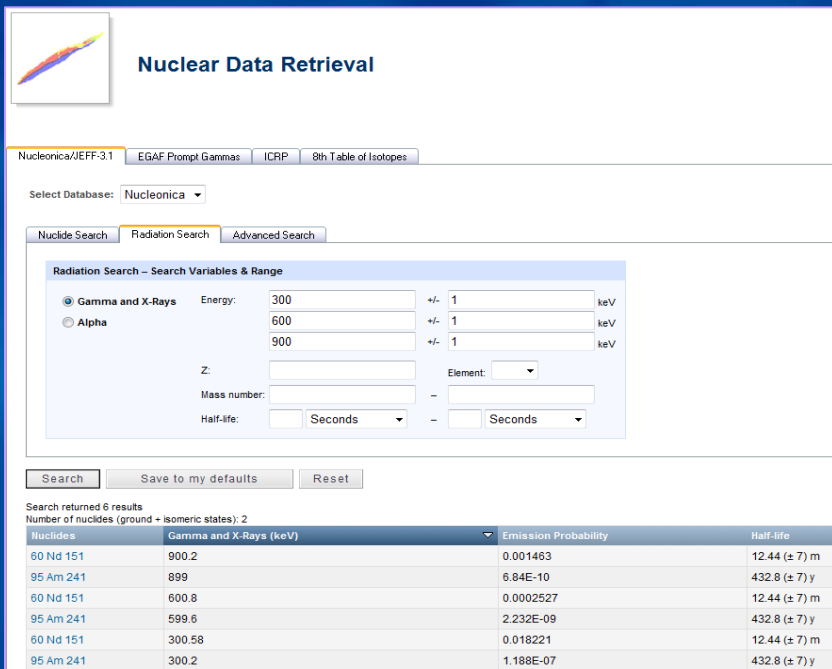
- NUCLEONICA is a new nuclear science web portal from the European Commission's Joint Research Centre. The portal provides a customisable, integrated environment and collaboration platform for the nuclear sciences using the latest internet "Web 2.0" dynamic technology.
- NUCLEONICA is aimed at professionals, academics and students working with radionuclides in fields as diverse as the life sciences (e.g. biology, medicine, agriculture), the earth sciences (geology, meteorology, environmental science) and the more traditional disciplines such as nuclear power, health physics and radiation protection, nuclear and radiochemistry, and astrophysics.
- Special focus: NUCLEONICA: A Platform for Knowledge Management, Education and Training in the Nuclear Sciences



2. NUCLEONICA's "Learning Centres":

- Data Centre

- Applications Centre



Nuclear Data Retrieval

Nucleonica/JEFF-3.1 EGAF Prompt Gammas ICRP 8th Table of Isotopes

Select Database: Nucleonica

Nuclide Search | Radiation Search | Advanced Search

Radiation Search – Search Variables & Range

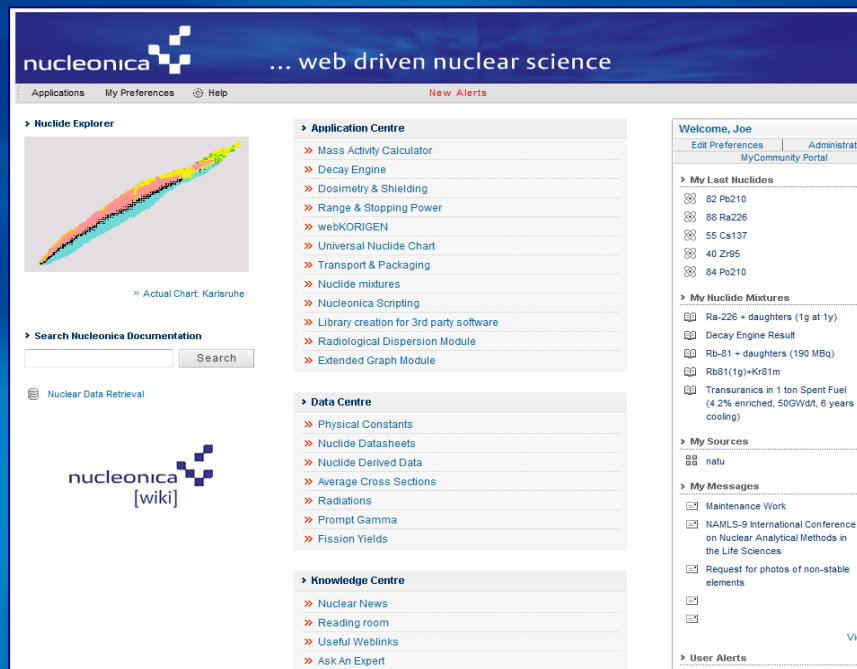
☒ Gamma and X-Rays Energy: 300 +/- 1 keV
☐ Alpha 600 +/- 1 keV
900 +/- 1 keV

Z: Element: Mass number: Half-life: Seconds Seconds

Search Save to my defaults Reset

Search returned 6 results
Number of nuclides (ground + isomeric states): 2

Nuclides	Gamma and X-Rays (keV)	Emission Probability	Half-life
60 Nd 151	900.2	0.001463	12.44 (± 7) m
95 Am 241	899	6.84E-10	432.8 (± 7) y
60 Nd 151	600.8	0.0002527	12.44 (± 7) m
95 Am 241	599.6	2.232E-09	432.8 (± 7) y
60 Nd 151	300.58	0.018221	12.44 (± 7) m
95 Am 241	300.2	1.188E-07	432.8 (± 7) y



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Applications My Preferences Help New Alerts

Nuclide Explorer

Actual Chart Karlsruhe

Search Nucleonica Documentation

Nuclear Data Retrieval

Application Centre

- Mass Activity Calculator
- Decay Engine
- Dosimetry & Shielding
- Range & Stopping Power
- webKORIGEN
- Universal Nuclide Chart
- Transport & Packaging
- Nuclide mixtures
- Nucleonica Scripting
- Library creation for 3rd party software
- Radiological Dispersion Module
- Extended Graph Module

Data Centre

- Physical Constants
- Nuclide Datasheets
- Nuclide Derived Data
- Average Cross Sections
- Radiations
- Prompt Gamma
- Fission Yields

Knowledge Centre

- Nuclear News
- Reading room
- Useful Weblinks
- Ask An Expert

Welcome, Joe

Edit Preferences Administration MyCommunity Portal

My Last Nuclides

- 82 Pb210
- 88 Ra226
- 55 Cs137
- 40 Zr95
- 84 Po210

My Nuclide Mixtures

- Ra-226 + daughters (1g at 1y)
- Decay Engine Result
- Rb-81 + daughters (190 MBq)
- Rb81(1g)+Kr81m
- Transuramics in 1 ton Spent Fuel (4.2% enriched, 50GWdt, 6 years cooling)

My Sources

- natu

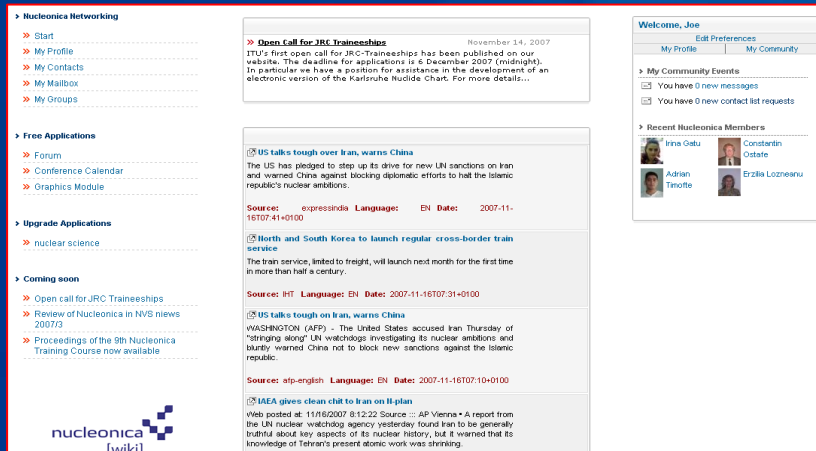
My Messages

- Maintenance Work
- NAMLS-9 International Conference on Nuclear Analytical Methods in the Life Sciences
- Request for photos of non-stable elements

User Alerts

- Knowledge Centre

- Networking Centre



Nucleonica Networking

Start My Profile My Contacts My Mailbox My Groups

Free Applications

- Forum
- Conference Calendar
- Graphics Module

Upgrade Applications

- nuclear science

Coming soon

- Open call for JRC Traineeships
- Review of Nucleonica in NVS news 2007/3
- Proceedings of the 9th Nucleonica Training Course now available

Open Call for JRC Traineeships

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US talks tough over Iran, warns China

The US has pledged to step up its drive for new UN sanctions on Iran and warned China against blocking diplomatic efforts to halt the Islamic republic's nuclear ambitions.

Source: expressindia Language: EN Date: 2007-11-16T07:41+0100

North and South Korea to launch regular cross-border train service

The train service, limited to freight, will launch next month for the first time in more than half a century.

Source: IHT Language: EN Date: 2007-11-16T07:31+0100

US talks tough on Iran, warns China

WASHINGTON (AFP) – The United States accused Iran Thursday of "hitting along UN watchdogs investigating its nuclear ambitions and barely warned China not to block new sanctions against the Islamic republic.

Source: atp-english Language: EN Date: 2007-11-16T07:10+0100

IAEA gives clean bill to Iran on 18 ppts

Web posted at: 11/16/2007 8:12:22 Source: AP Vienna - A report from the UN nuclear watchdog agency yesterday found Iran to be generally faithful about key aspects of its nuclear history, but it warned that its knowledge of Tehran's present atomic work was shrinking.

Welcome, Joe

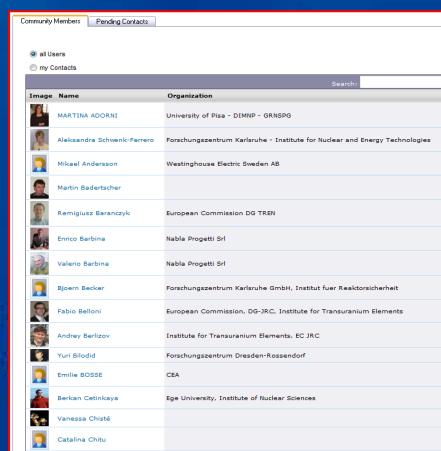
Edit Preferences My Profile My Community

My Community Events

- You have 0 new messages
- You have 0 new contact list requests

Recent Nucleonica Members

- Kino Odu
- Constantin Ostale
- Adrian Timofte
- Ercilia Lozano

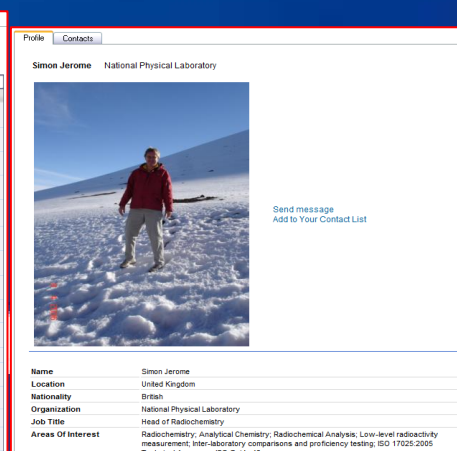


Community Members Pending Contacts

all users

My Contacts

Image	Name	Organization
MARTINA ADORNI	MARTINA ADORNI	University of Pisa - DIMRP - GRISDP
Alexandra Schwab-Ferre	Alexandra Schwab-Ferre	Forschungszentrum Karlsruhe - Institute for Nuclear and Energy Technologies
Mikael Anderson	Mikael Anderson	Westinghouse Electric Sweden AB
Martin Badertscher	Martin Badertscher	
Remigiusz Baranczyk	Remigiusz Baranczyk	European Commission DG TRIN
Enrico Barbina	Enrico Barbina	Nabla Progetti Srl
Valerio Barbina	Valerio Barbina	Nabla Progetti Srl
Spenn Becker	Spenn Becker	Forschungszentrum Karlsruhe GmbH, Institut fuer Reaktoricherheit
Fabio Belloni	Fabio Belloni	European Commission, DG-JRC, Institute for Transuranium Elements
Andrey Berlov	Andrey Berlov	Institute for Transuranium Elements, EC JRC
Yuri Blodid	Yuri Blodid	Forschungszentrum Dresden-Rossendorf
Emilie BOSSE	Emilie BOSSE	CEA
Berkan Cetinkaya	Berkan Cetinkaya	Ege University, Institute of Nuclear Sciences
Vanessa Chisté	Vanessa Chisté	
Catalina Chiu	Catalina Chiu	



Profile Contacts

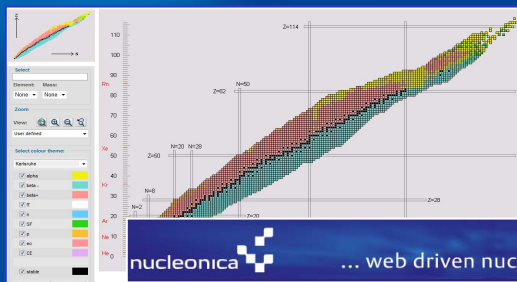
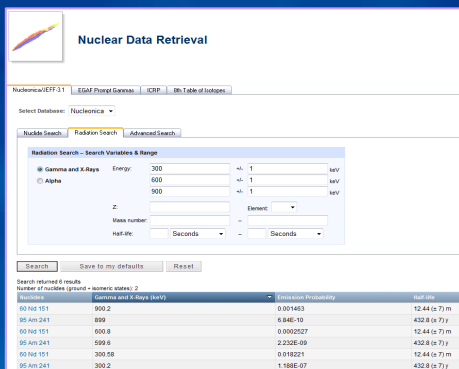
Simon Jerome National Physical Laboratory

Send message Add to Your Contact List

Name: Simon Jerome
Location: United Kingdom
Nationality: British
Organization: National Physical Laboratory
Job Title: Head of Radiochemistry
Areas Of Interest: Radiochemistry, Analytical Chemistry, Radiochemical Analysis, Low-level radioactivity measurement, Inter-laboratory comparisons and proficiency testing, ISO 17025:2005
Technical Session: ICRN Route A1

3. Unique feature: Web-based Nuclear Science Applications

Data centre...



nucleonica ... web driven nuclear science

Gamma Spectrum Generator

Actual chart: Karlsruhe

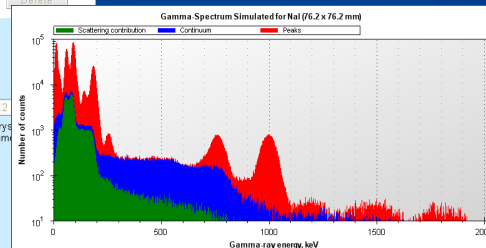
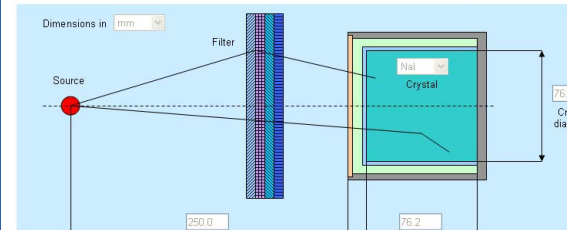
Element: Mass: Co 60 Nuclide Mixtures Selector

Quantity: Bequerel 1000000 Reference point: Measurement start

Measurement setup Calculation results Options

Measurement time: sec 1000 Start

Current configuration: NaI, L x D = 3 in x 3 in (default) Save Delete



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Applications My Preferences Help New Alerts

Nuclide Explorer

Actual Chart: Karlsruhe

Search Nucleonica Documentation

Nuclear Data Retrieval

nucleonica [wiki]

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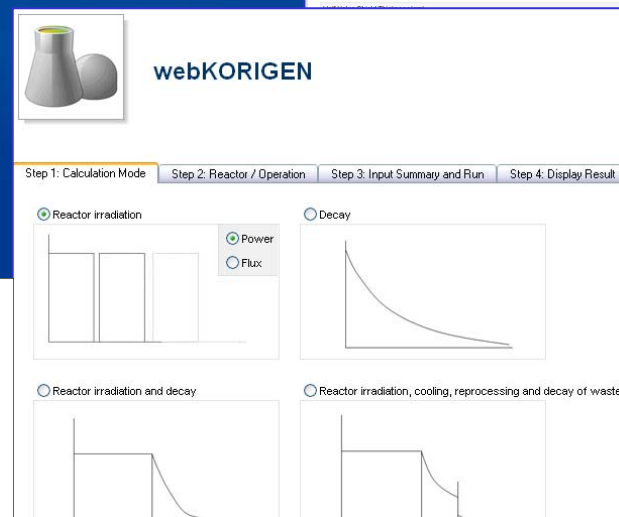
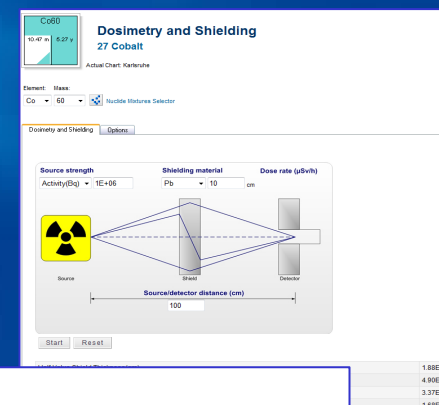
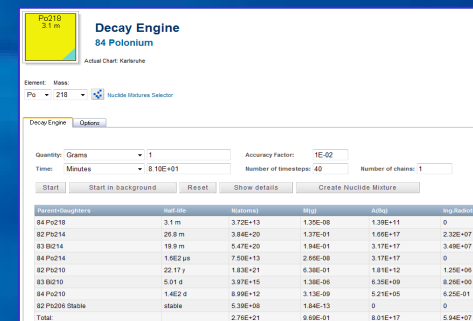
- natu

My Messages

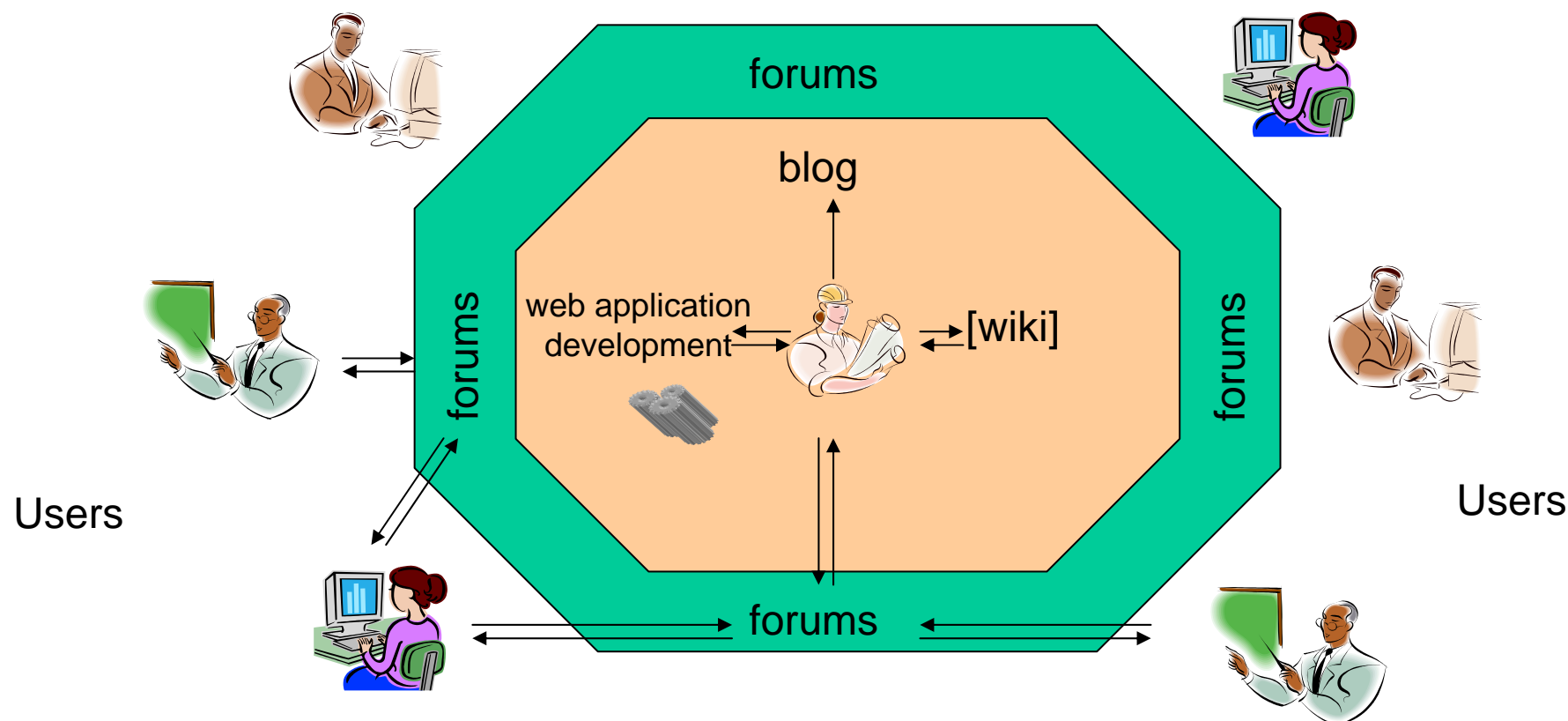
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User Alerts

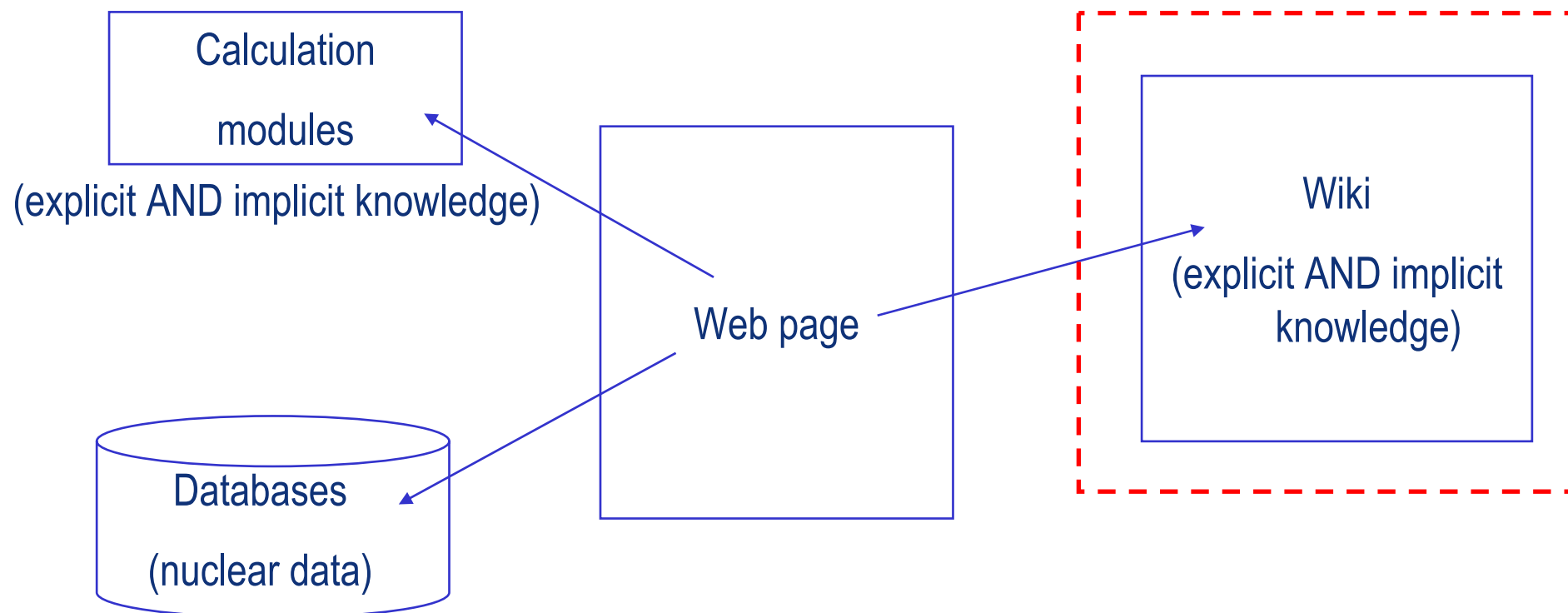
Applications centre...



NUCLEONICA Knowledge Management: Tacit → Explicit Knowledge through the development of communities around the scientific applications (based on Web 2.0 tools)



Nucleonica Architecture & Logical Structure...



The NUCLEONICA Structure

October 2007 Karlsruhe

[edit]

9th Nuclear Science Training Course with Nucleonica, 25/26th Oct. 2007, Ostendorfhaus, Karlsruhe

The 9th Nuclear Science training course on Radioactivity, Radionuclides and Radiation with Nucleonica was held at the Ostendorfhaus, Karlsruhe from the 25th to 26th October, 2007. The two-day course provided a general introduction to the recently released Nucleonica: the new science networking and applications portal. Nucleonica is a powerful and versatile web-based software package for the nuclear science community. With examples and exercises, a variety of core and topical issues in nuclear science and technology were presented by experts in their respective fields.

A total of twenty-nine participants, around half of them women, with a diverse range of backgrounds attended the course. There were participants from Azerbaijan, Belgium, Bulgaria, Czech Republic, Poland, Romania and Turkey. In addition there were 10 participants from the Institute for Transuranium Elements. Among them were students, academics and industry professionals from fields such as nuclear medicine, radiation protection, environmental radioactivity and reactor physics.

[Final Agenda 25th Oct. 2007](#)

[How to get from the hotel to the conference training centre](#)

[Links to the presentations and exercises:](#)

[Networking with Nucleonica \(J. Magill\) Exercises](#)

[Nuclear Data \(J. Galy\) Exercises](#)

[Nuclide Charts \(C. Normand\) Exercises](#)

[Decay Engine \(A. Berlizov\) Exercises](#)

[Dosimetry & Shielding \(J. Galy\) Exercises](#)

[Nuclear Forensics & Illicit Trafficking \(K. Mayer\) Exercises](#)

[Overview of the Institute for Transuranium Elements \(F. Wastin\)](#)

[Advanced Nucleonica Features \(J. Magill\)](#)

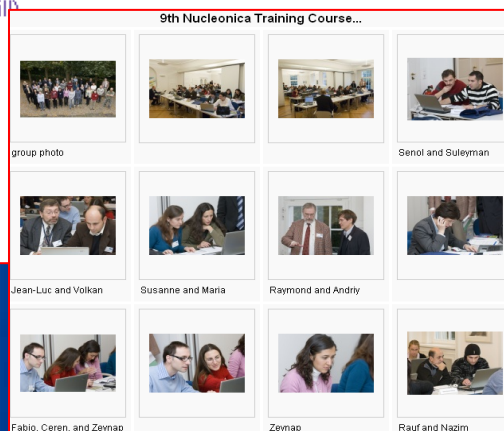
[Training Course Feedback](#)

[QM Questionnaire](#)

[Course Certificate](#)

[List of Participants](#)

[Gallery](#)

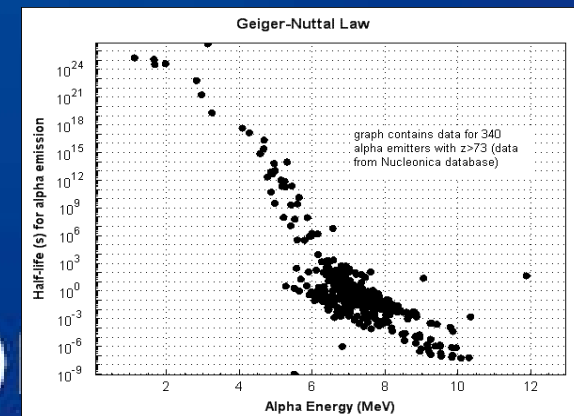
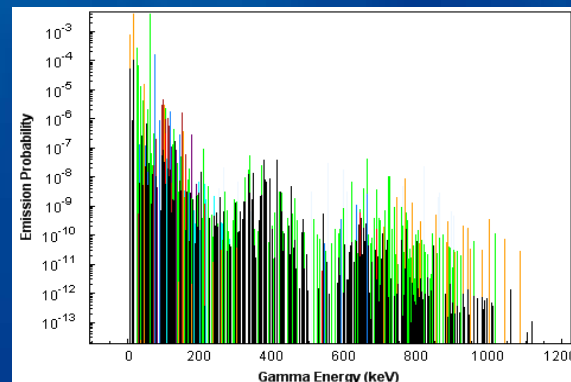
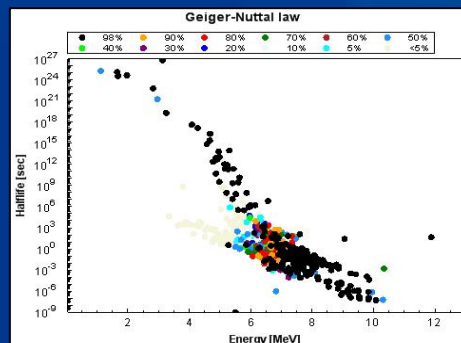
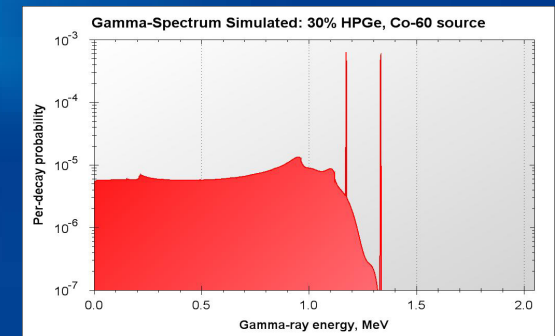
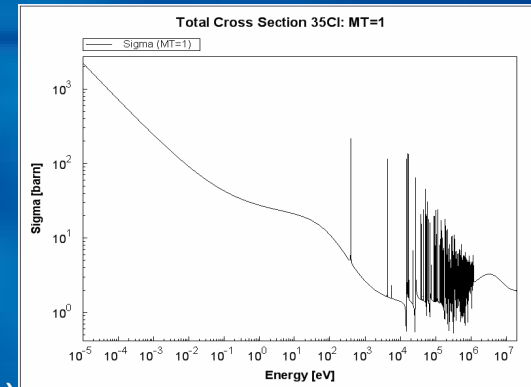


nucleonica

webGraphics...

The Nucleonica webGraphics Features:

- No need to buy expensive commercial software
- Easy to use
- Delivers publication quality scientific graphs
- Variety of formats available (gif, jpg, emf, eps, png, svg)
- Graphics configuration can be stored for future use
- Available at any time from any location
- Under constant further development



Conclusions: Key Advantages of Nucleonica

- Keep informed with the latest news on nuclear issues
- Use internationally evaluated nuclear data in your work
- Extensive range of nuclear science applications
- Manage all your data in a single browser-based system and keep track of your recent activities
- Prepare a lecture or a training course with Nucleonica materials (graphics. etc.)
- Prepare publication quality scientific graphs
- Stay in contact with your colleagues from previous employment, workshops or conferences
- Meet scientists from your areas of interest and build up an international contact list and represent yourself and your Institute/Organisation in the international science community



nucleonica



Thanks!



nucleonica

